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(21) 出願番号	実願昭62-133980	(71) 出願人	999999999 本田技研工業株式会社 東京都港区南青山二丁目1番1号
(22) 出願日	昭和62年(1987)9月3日	(71) 出願人	999999999 株式会社ニフコ 神奈川県横浜市戸塚区舞岡町184番地1
(65) 公開番号	実開平1-39180	(72) 考案者	角田 正明 埼玉県和光市中央1丁目4番1号 株式会社 本田技研研究所内
(43) 公開日	平成1年(1989)3月8日	(74) 代理人	弁理士 桑原 稔
審判番号	平4-15012	審判の合議体	
		審判長	高橋 邦彦
		審判官	築山 敏昭
		審判官	小田 光春

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(54) 【考案の名称】 開閉体用サポート

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【実用新案登録請求の範囲】

【請求項1】 回動自在に一端が枢支されている開閉体に向けて傾斜状態に起立して用いられる起伏自在のサポートにおいて、

該サポートは、サポートロッドと、該サポートロッドの先端側に装着されるプラスチック製の支承部材とよりなり、

該サポートロッドには、該サポートロッドの軸を巡る方向に係合部が隆起状に設けられており、前記支承部材には、前記開閉体に設けられている係合穴の穴縁の周面に当接する座部と、この座部上に一体に隆起して設けられ且つ該係合穴に差入れられる差し込み部と、該座部から下方に向けて一体に設けられ且つサポートロッドの装着される取付け筒部とが備えられており、前記座部から一体に隆起して設けられている差し込み部

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は、その先端側が、前記サポートの起伏方向における上向きの傾斜面としてあると共に、前記開閉体の係合穴の穴縁の周面に係合する係合突部が、該差し込み部の先端部に、前記サポートの起伏方向における下方向に向けて突き出し状態に設けてあり、

且つ、前記係合突部の先端を通る前記サポートロッドに平行な仮想線と、該係合突部の備えられている側と反対の側にある前記差し込み部における傾斜面端を通る前記サポートロッドに平行な仮想線とに直交して、該各仮想線を結ぶ仮想線の寸法が、前記開閉体の係合穴における前記サポートの起伏方向の穴寸法よりも大きく構成してあり、

前記取付け筒部の内側には、この取付け筒部に差し込まれる前記サポートロッドの係合部に係合される係合片が突設してあり、

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且つ、前記サポートロッドと前記取付け筒部には、該両部材の共回りを防止する回転防止手段が設けられていることを特徴とする開閉体用サポート。

【考案の詳細な説明】

(産業上の利用分野)

この考案は自動車等のエンジンフード等を典型例とする開閉体をその開の状態でも保持するようにした開閉体用のサポートの改良に関し、より詳細には開閉体を支承するサポートロッドにプラスチック製の支承部材を取付けて開閉体の開状態での支承と、開閉体に生ずる突風等による廻りの抑止とを効果的になすようにしたサポートの提供に関する。

(従来の技術)

通例開閉体のサポートの手段としてはサポートロッドの先端をU字型に湾曲させたものが多く、その一端を例えば自動車のボディ側に揺動自在に枢支し、前記のU字型の先端部分をフードのフードインナ等に設けた係合穴に係合してフードを開の状態として使用していた。

(考案が解決しようとする問題点)

しかしながら、かかる金属製のロッドは前記のU字型の係合部分を作り出すために多くの手間を必要とし、その製作コストが比較的割高とされるのみならずフード等との金属接触を避けるためには先端の係合部分にナイロンコーティング等をする必要があり、その製作が難しく、しかも割高となる傾向にあった。

かかる点よりサポートロッドのみを金属棒その他の棒材とし、フード等に直接係合される部分を樹脂その他の素材で形成することが試みられてきた。

かかる方法ではロッド自体に特異な曲げ加工あるいはコーティング等の表面処理を施す必要がなく、単純な棒材として用意することであり、このロッドに別途成形した支承部品を組付けることで良好なフード等の支承状態を即座に作り出し得る特長を有していた。

しかしながら従前のこの種の支承部品の多くはフード等の支承構造が複雑となり易く、しかもフード等の開閉操作が煩雑である場合が多く、成形コストも通例割高とされていた。

本考案に係る開閉体用サポートは、かかる従前のサポートにおける不都合を回避すべく提案されたものであって、サポートロッドと支承部品との組付けによる支承手段において、この支承部品をよりシンプルなものとし、しかもフード等の開閉操作を容易になしながら、フード等の支承が充分になされ、更に突風等の予期せぬ廻り出しに際しても、これらフード等が確実に支承停止されるサポートの提供をなすものである。

(問題点を解決するための手段)

本考案に係る開閉体用サポートは、かかる目的を達成する手段としてサポートを以下のように構成している。

即ち、フード等のように、回転自在に一端が枢支されている開閉体Cに向けて傾斜状態に起立して用いられる

起伏自在のサポートにおいて、

該サポートは、サポートロッドBと該サポートロッドBの先端側に装着されるプラスチック製の支承部材Aとにより構成しており、

該サポートロッドBには、該サポートロッドBの軸を巡る方向に係合部1が隆起状に設けてあり、前記支承部材Aには、前記開閉体Cに設けられている係合穴cの穴周面に当接する座部1と、この座部1上に一体に隆起して設けられ且つ該係合穴cに差入れられる差し込み部2と、該座部1から下方に向けて一体に設けられ且つサポートロッドBの装着される取付け筒部3とが備えられており、

前記座部1から一体に隆起して設けられている差し込み部2が、その先端側に、前記サポートの起伏方向における上向きの傾斜面2bとしてあると共に、前記開閉体Cの係合穴cの穴縁の周面に係合される係合突部2cが、前記差し込み部2の先端部に、前記サポートの起伏方向における下方向に向けて突き出すように設けてあり、

しかも、前記取付け筒部3の内側には、この取付け筒部3に差し込まれる前記サポートロッドBの係合部1に係合される係合片3aが突設してあり、

且つ、前記サポートロッドBと前記取付け筒部3には、該両部材の共回りを防止する回転防止手段が設けられた構成としてある。

(作用)

本考案に係る開閉体用サポートは、開方向に起立された開閉体Cに対し、該開閉体Cを、その支承状態より、さらに上方に持上げた状態で、この開閉体Cの係合穴cに、該開閉体Cと同様に傾斜状に起立させたサポートロッドBにおける支承部材Aの差し込み部2を挿入することによって、両者を係合状態に組み付け用いることができる。

このサポートロッドBを、手などによって保持した状態で、前記の挿入をなす際に、差し込み部2の係合突部2cと傾斜面2bの一部とを係合穴c内に位置づけることにより、差し込み部2の傾斜面2bが開閉体Cの先端側(開状態とされた場合の上部側)にある係合穴cの穴縁c'に接触し、その穴縁c'により矢印yの側に向けて押し下げられ、該差し込み部2が漸次穴c内に挿入される(第11図参照)。

次いで、係合穴cの穴縁c'に対する差し込み部2の傾斜面2bの支承が解かれた状態(第10図参照)、即ち、座部1上にある差し込み部2に係合穴cの穴縁c'が位置づけられた際に、開閉体Cがmの方向に落ち込み、開閉体Cが支承部材Aの座部1によって支承される。

かかる状態で前記のサポートロッドBに対する手などによる保持を解くことにより、該サポートロッドBは自らの自重により、矢印yの方向に傾き、開閉体Cの前記穴縁c'に対向している穴縁c''(実際には開状態とされる開閉体Cの回転基部側にある穴縁)を前記の座部1

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の支承面1aによって支承するように機能する（第8図参照）。

尚、前記の支承部材Aの挿入を、手などによるサポートロッドBの保持をなさずになした場合、支承部材Aの係合突部2cが係合穴c内に位置づけられることに伴って、第9図で示されるように係合穴cの穴縁c'に向けてサポートロッドBの差し込み部2が矢印y'の方向に倒れ込み、この穴縁c'と、支承部材Aの係合突部2c及び座部1の支承面1aとの間にある立上り壁部とが接して開閉体Cがm'の方向に落とし込まれ、前記と同様に係合穴cの穴縁c'がサポートロッドBの支承面1aで支承される。

かかる状態で開閉体Cに対しm'の方向に向けた廻り出しの力が作用した場合、第9図で示されるように開閉体Cの穴縁c'が支承部材Aの係合突部2cに当接され、サポートロッドBと開閉体Cとの解放が防止される。

又、かかる廻り出しの力が消失した場合でも、サポートロッドBが矢印y'の側に向けて倒れ込んでいることから、開閉体Cの穴縁c'が係合突部2cと座部1との間の立上り壁部に接しながら再度m'の方向に押し込まれることとなり、両者の係合状態が維持される。

又、サポートロッドBを矢印y'の方向に回動した際にも、該サポートロッドBの前記差し込み部2が開閉体Cの穴縁c'に確実に当接することとなり、開閉体Cを上方に押し上げない限り両者の係合状態が維持できる。

従って、サポートロッドBが誤って矢印y'の方向に回動された場合でも開閉体CはサポートロッドBにより支承される。

次いで開閉体Cを閉じ込む場合には、開閉体Cを第10図で示されるようにm'の方向に持ち上げ、係合穴cの穴縁c'が差し込み部2の傾斜面2b面に位置付けられるようにした状態でサポートロッドBを矢印y'の方向に回動し、（第11図参照）、これによって、両者の係合を解くことができる。

また、サポートロッドBを矢印y'の方向に回動することなく、充分に開閉体Cをm'の方向に持ち上げ、この状態で差し込み部2の係合突部2cの突出幅相当分の動きをサポートロッドBにもたらすことによって、両者の係合を解放することができる。

更に、前記取付け筒部3の内側には、この取付け筒部3に差し込まれる前記サポートロッドBの係合部bに係合される係合片3aが突設しており、しかも、前記サポートロッドBと前記取付け筒部3には、該両部材の共回りを防止する回転防止手段が設けられていることから、支承部材Aは、前記サポートロッドBの差し込みによって、直ちに組み付けられると共に、この差し込み組み付けによって、その組み付けの向きを、そのまま維持することができる。

（実施例）

以下本考案に係る開閉体用サポートの典型的な一実施

例を添付の図面について説明する。

先ず図においてAは支承部材であり、プラスチック成形品などを典型例とし、Bはこの支承部材Aを先端側に有するサポートロッドであり、通例自動車のボディ側に起伏自在に収容状態に備え付けられている。

そしてCはフードのフードインナ等の開閉体であって、前記支承部材Aの差し入れられる係合穴cを有しており通例基部側を収容されて回動自在に備えられている。

従って、ここで、自動車のボディ側に起伏自在に備え付けられるサポートロッドBは、開閉体Cを都合良く支承する向き、即ち、該開閉体Cの回動方向と略同一の向きに起伏されるように備え付けられている。

そして支承部材Aは、サポートロッドBの先端側が嵌着される取付け筒部3と前記の係合穴cに挿入される差し込み部2とが座部1を介して一体に備えられた構成としてある。

又、座部1は、基本的には前記の係合穴cの形状に対応して形状の設定がなされるものであり、図示例では長方形形状をなしており、この係合穴cの穴径よりも大きく設定されて、この係合穴cの周囲の板面を支承する構成とされている。

かかる座部1から隆設される差し込み部2は、傾斜状にして使用される前記サポートロッドBの回動起立時に下側Y、即ち、サポートロッドBの起伏方向にある下向きの側に位置する部分に支承面1aが必ず残されるように前記の座部1から隆設されている。

そして該差し込み部2にはサポートロッドBの回動起立時に上側Y'となる側の座部1の支承面1bの位置から直角に起立する立上り壁部2aが設けてある。

更に、この立上り壁部2aを含む差し込み部2の先端側には、前記の上側Y'から前記の下側Yに向けて突き出すように傾斜する傾斜面2bを設けた構成としてあり、この傾斜面2bの上部側に、前記座部1の支承面1a、1bに平行となる係合突部2cを、前記の下側Yの方向に向けて突設した構成としてある。即ち、差し込み部2は、その先端側に、前記サポートロッドBの起伏方向における上方側を向いた傾斜面2bが設けてあり、しかも、該差し込み部2の先端部に、このサポートロッドBの起伏方向における下方側に突き出す係合突部2cを設けた構成としてある。

即ち、この係合突部2cであって、前記座部1の下側Yにある支承面1aに対向した部分が頸部2c'として構成される。又前記の座部1からこの係合突部2cの頸部2c'に到る間の立上り壁部2dの座部側を前記の支承面1aに向けて斜々隆起する傾斜部2eとし、開閉体Cが一挙に支承面1aに落とし込まれる不都合を回避している。

又、差し込み部2の係合突部2cは中央部分のみを隆起2fし、係合穴cの穴縁c'に対する接触抵抗を少なくし、より円滑な差し入れを期すると同時に使用素材の削減

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をばかっている。

かかる構成よりなる差し込み部2は、前記開閉体Cの係合穴cに対して、前記傾斜面2bを用いることで差し入れられると共に、この組付け状態にある開閉体Cと該差し込み部2との引き離しに際して、この差し込み部2における係合突部2cが、該開閉体Cにおける係合穴cの穴縁の周面に当接する形状、寸法となる構成としてある。

即ち、差し込み部2が、前記開閉体Cにおける係合穴cに差し込み可能な形状、寸法に構成してあると共に、前記係合突部2cの突き出し先端を通り、しかも、前記サポートロッドBに平行な仮想線Xと、この係合突部2cの備えられている側と反対の側にある前記傾斜面2bにおける傾斜面端、この図示例にあっては、立上り壁部2aと傾斜面2bとの接する縁を通り、しかも前記サポートロッドBに平行な仮想線X'とに直交し、且つ、この夫々の仮想線X、X'を結ぶ仮想線xの寸法を、前記サポートロッドBの起伏方向にある前記係合穴cの穴寸法よりも大きくするように前記差し込み部2を構成してある。

次いで取付け筒部3は前記の上側Y'と下側Yとの方向に亘って筒内を連通する窓穴3aを有しており、該窓穴3aには一対の係合片3b、3bが前記の筒部3の内方に、その先端側を傾斜状態に突き出すように設けてある。

又、挿入されるサポートロッドBに対して、支承部材Aを回転しないように取付ける手段、即ち、回転防止手段の一方の手段として、筒部3の入口側より内奥に向けた周壁に溝3cを設けてある。

次いでサポートロッドBは、その先端部側の軸を巡る方向、即ち、円周方向に、該サポートロッドBの先端部側より基部側に向けて漸次肉厚状に隆起される係合部bを有しており、該係合部bの傾斜面により前記筒部3の係合片3b、3bを外方に弾性変形させながら支承部材Aに挿入できる構成としてある。

この挿入に伴ってサポートロッドBの係合部bにある頸部b'に前記係合片3b、3bの先端縁が夫々弾性的に係合されて両者が一体に組付けられる。

このサポートロッドBの挿入に際し、該サポートロッドBの周側に、回転防止手段の他方の手段とされる回り止めの突部b''を設けてあり、この回り止めの突部b''を、前記筒部3の溝3cに係入することにより、サポートロッドBに取付けられる支承部材Aの回転が防止される。

又、フードインナ等を典型例とする開閉体Cの係合穴cは第12図と第13図で示されるように支承部材Aの座部1が効率的に納まる形状の凹陥部c''を有していることが理想的であり、これによってサポートロッドBの支承部材Aのより円滑な差し込みと、安定した支承状態とを作り出すことができる。

尚、上記の係合穴cの穴径と差し込み部2の寸法及び係合突部2cの突出幅等は差し込み部2の傾斜面2bの傾斜の度合等を総合的に勘案して相互に定められるものであ

り、必ずしも図示例のものに特定されるものではない。

又、当然のことながら係合穴cの一方の穴径は差し込み部2の立上り壁部2aから係合突部2cに到る寸法より狭く構成されており、係合突部2cが係合穴cの穴縁c'により確実に支承される構成としてある。

次いで叙上実施例に係る開閉体用サポートについて、その動作例を第8図～第11図を参照して説明する。

まず開閉体Cを開の状態で維持するためには、開閉体Cを支承状態より上方に持上げた状態で、この開閉体Cの係合穴cに対し同様に傾斜状に起立させたサポートロッドBの支承部材Aの差し込み部2を挿入する。この際サポートロッドBは手等で支持している。

かかる支承部材Aの差し入れは、差し込み部2の係合突部2cと傾斜面2bの一部とを係合穴c内に位置づけることにより、差し込み部2の傾斜面2bが開閉体Cの先端側（開状態とされた場合の上側）にある係合穴の穴縁c'に接触し、この穴縁c'により矢印yの側に向けて押し下げられ、漸次穴c内に挿入される（第11図参照）。

そして係合穴cの穴縁c'と差し込み部2の傾斜面2bとの接触が解かれた状態（第10図参照）、即ち立上り壁部2aに係合穴cの穴縁c'が位置づけられた際に、開閉体Cがmの方向に落ち込み、支承部材Aの座部1の支承面1bによって支承される。

かかる状態で前記のサポートロッドBに対する保持を解くことにより該サポートロッドBは自らの自重により矢印yの方向に傾き、開閉体Cの前記穴縁c'に對向している穴縁c''（実際には開状態とされる開閉体Cの回転基部側にある穴縁）に対して、前記の座部1の支承面1aが、これを支承するように機能する（第8図参照）。

尚、前記の支承部材Aの差し入れをサポートロッドBの保持をせずにした場合、支承部材Aの係合突部2cが係合穴c内に位置づけられることに伴い第9図で示されるように係合穴の穴縁c''に向けてサポートロッドBの差し込み部2が矢印yに方向に倒れ込み、この穴縁c''と、支承部材Aの係合突部2c及び座部1の支承面1aとの間にある立上り壁部2dとが接して開閉体Cがmの方向に落ち込まれ、前記と同様に係合穴cの穴縁c'がサポートロッドBの支承面1aで支承されることとなる。

次いで廻り出し防止の機能について説明する。

叙上で支承されている開閉体Cに対しm'の方向に向けた廻り出しの力が作用した場合、第9図で示されるように開閉体Cの穴縁c''が支承部材Aの係合突部2cの頸部2c'に当接し、サポートロッドBと開閉体Cとの解放が防止される。

又、かかる廻り出しの力が消失した場合でもサポートロッドBが矢印yの側に向けて倒れ込んでいることから開閉体Cの穴縁c''が係合突部2cと座部1の支承面1aとの間の立上り壁部2dに接しながら再度mの方向に落ち込まれることとなり、両者の係合状態が維持される。

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次いでサポートロッドBに外力が付加された場合について説明する。

仮にサポートロッドBが矢印 y' の方向に倒し込まれた場合でも、該サポートロッドBの前記立上り壁部2aが開閉体Cの穴縁 c' に確実に当接することとなり、開閉体Cを上方に押し上げない限り両者の係合状態がそのまゝの状態に維持される。

従って、サポートロッドBが誤って矢印 y' の方向に押動された場合でも開閉体CはサポートロッドBにより確実に支承されることとなる。

次いで開閉体Cを閉じ込む操作について説明する。

まず、開閉体Cを第10図で示されるように m' の方向に持ち上げ、係合穴 c の穴縁 c' が差し込み部2の傾斜面2cに位置付けられた状態でサポートロッドBを矢印 y' の方向に回動する(第11図参照)ことにより両者の係合が解かれる。

勿論、サポートロッドBを矢印 y' の方向に回動することなく、充分に開閉体Cを m' の方向に持ち上げ、この状態で差し込み部2の係合突部2cの突出幅相当分の動きをサポートロッドBにもたらしても良い。

(考察の効果)

本考案に係る開閉体用サポートは仮上における特長ある構成並びに作用よりして取扱い操作が容易であり、しかも支承部材Aの構成が簡素で成形コストが割安とされているにも拘らず開閉体Cが開の状態でも確実に支承されることとなり、開閉体Cに対し予期せぬ突風等の外力が*

*付加された場合でも、支承部材AがサポートロッドBに対して回転したり、抜け出したりすることがなく、開閉体Cとサポートとの係合が解かれることがない。

又、開閉体Cを支承しているサポートロッドBに対し同様に予期しない外力が付加された場合にも同様にその係合状態を維持できる特長を有している。

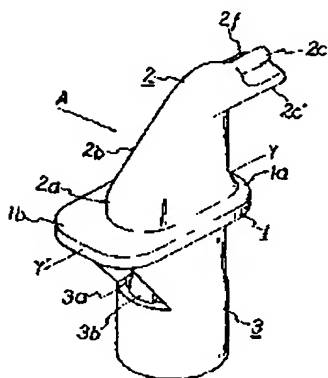
更に、前記取付け筒部3の内側には、この取付け筒部3に差し込まれる前記サポートロッドBの係合部bに係合される係合片3bが突設してあり、しかも、前記サポートロッドBと前記取付け筒部3には、該両部材の共回りを防止する回転防止手段が設けられた構成としてあることから、前記支承部材Aは、前記サポートロッドBに対して、容易に挿入組み付けられると共に、このサポートロッドBに組み付けられた支承部材Aの回転が防止され、支承部材Aは常に、取り付けた向きと同一の向きに組み付け保持される特長を有している。

【図面の簡単な説明】

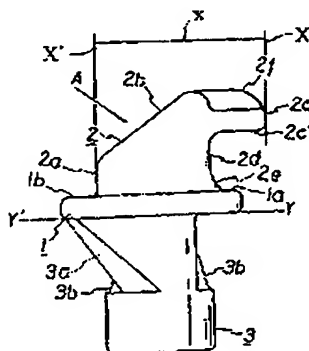
第1図は本考案に係る支承部材Aの斜視図、第2図は正面図、第3図は側面図、第4図は平面図、第5図は底面図、第6図はサポートロッドBを挿入した状態の一部断面図、第7図は同要部破断斜視図、第8図～第11図は開閉体Cの移動状態を示す要部破断正面図、第12図は開閉体Cの係合穴部を示す底面図、第13図は同要部断面図である。

1……座部、2……差し込み部、3……筒部、A……支承部材、B……サポートロッド、C……開閉体。

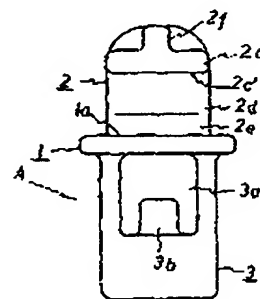
【第1図】



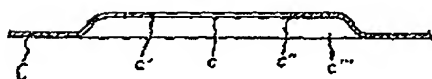
【第2図】



【第3図】



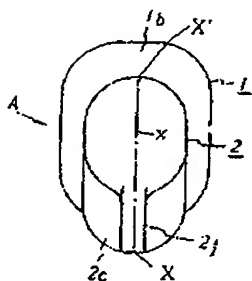
【第13図】



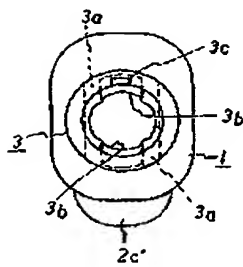
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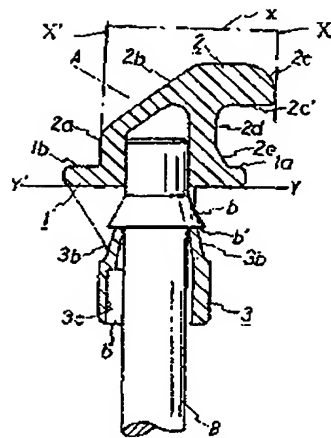
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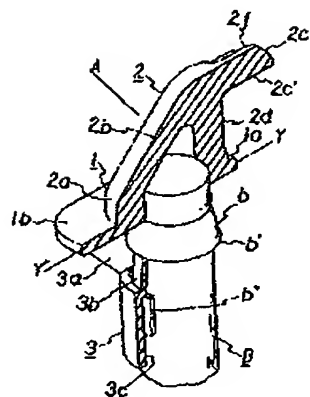
【第5図】



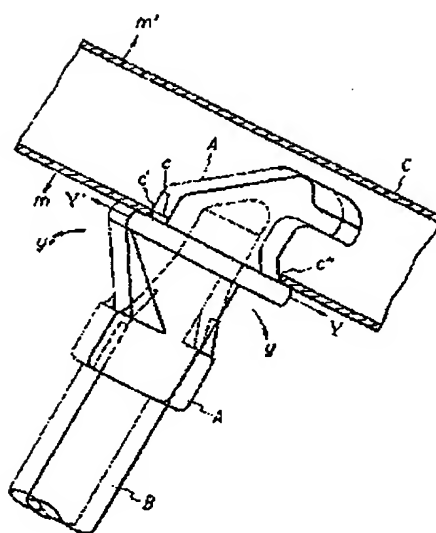
【第6図】



【第7図】



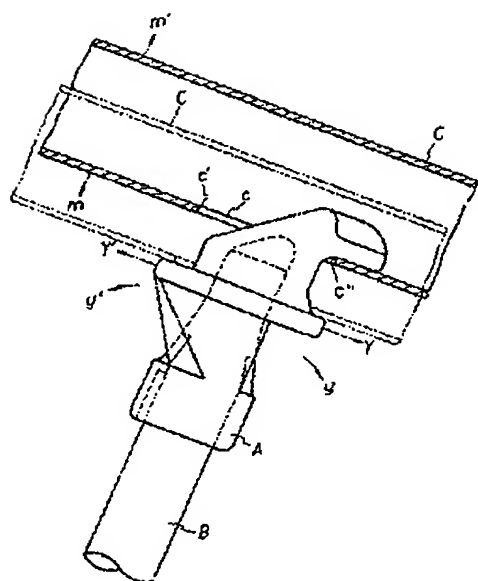
【第8図】



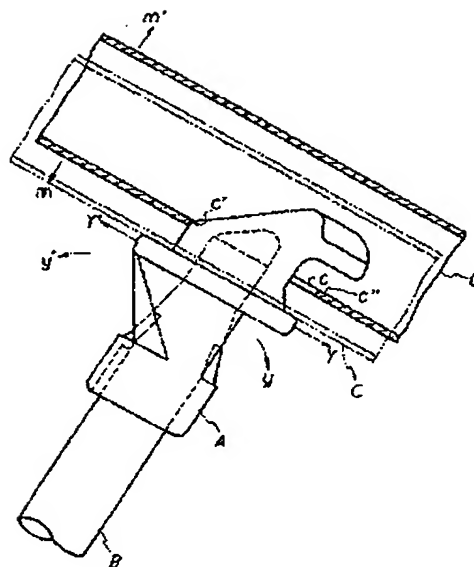
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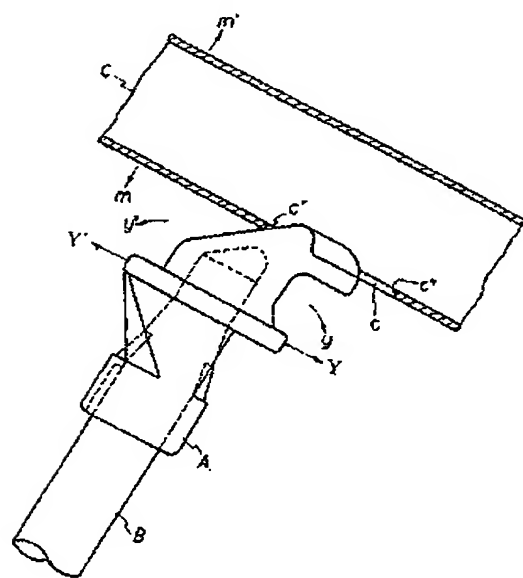
【第9図】



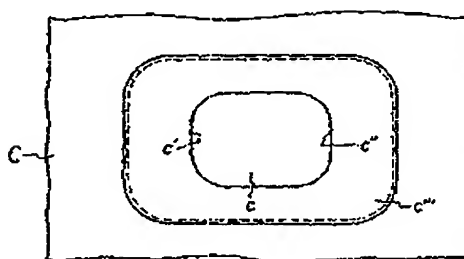
【第10図】



【第11図】



【第12図】



* NOTICES *

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1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed explanation of a design]

(Field of the Invention)

the closing motion which held the closing-motion object with which this design makes the engine hood of an automobile etc. the example of a type in the state of open [that] -- it is related to offer of the support which inhibited effectively influence by the blow which attaches the bearing member made from plastics in the support rod which supports a closing-motion object in a detail more about amelioration of a support of the body and its function, and produces on the bearing and the closing-motion object in the open condition of a closing-motion object.

(Prior art)

There was much what incurvated the tip of a support rod in the U character mold as a means of a support of a closing motion object usually, it supported the end pivotably free [rocking] in the body side of an automobile, engaged with the engagement hole which prepared a part for the point of the aforementioned U character mold in the hood liner of a hood etc., and was using the hood as an open condition.

(Trouble which a design tends to solve)

However, the rod of ***** metal needed much time and effort, in order to make the engagement part of the aforementioned U character mold, in order to avoid metallic contact with a hood etc. it to not only be supposed for that it is comparatively comparatively high-priced the manufacture cost, but, it needed to carry out nylon coating etc. to the engagement part at a tip, and the manufacture was difficult for it and it suited the inclination which moreover becomes comparatively high-priced.

To form the part which makes only a support rod the bar of a metal rod and others, and engages with a hood etc. directly from ***** for the material of resin and others has been tried.

By the ***** approach, surface treatment, such as unique bending or coating, did not need to be performed to the rod itself, preparing as a simple bar was sufficient, and it had the features which can make bearing conditions, such as a good hood, immediately by attaching the bearing components separately fabricated to this rod.

However, bearing structures, such as a hood, tend to become complicated [this old kind of bearing components / many of], moreover, switching operation, such as a hood, is complicated in many cases, and shaping cost was also made usually comparatively high-priced.

In the bearing means a support is proposed that it should avoid un-arranging in a ***** old support, and according to attachment by the support rod and bearing components closing motion concerning this design -- the body and its function -- This bearing component is made simpler and the support which bearing, such as a hood, is fully made and moreover does not expect [blow] switching operation, such as a hood, further though easily nothing and by which the bearing stop of these hoods etc. is certainly carried out even if it faces beginning to instigate is offered.

(Means for solving a trouble)

closing motion concerning this design -- the body and its function -- the support constitutes the support as follows as a means to attain the ***** purpose.

That is, it sets to the support which can be risen and fallen and which is stood up and used for an inclination condition like a hood towards the closing motion object C with which the end is supported pivotably free [rotation]. This support The bearing member A made from plastics with which the tip side of the support rod B and this support rod B is equipped constitutes. To this support

rod B The engagement section b is formed in the direction involving the shaft of this support rod B at *****. To said bearing member A The seat 1 which contacts the hole peripheral surface of the engagement hole c established in said closing motion object C, The plug section 2 which is upheaved and prepared on this seat 1 at one, and is inserted into this engagement hole c, It has the anchoring cylinder part 3 which it turns caudad from this seat 1, and is prepared in one, and is equipped with the support rod B. While having made into upward inclined plane 2b in the boom-hoisting direction of said support the plug section 2 prepared in one by upheaving from said seat 1 at the tip side Engagement projected part 2c which engages with the peripheral surface of the cheek of the engagement hole c of said closing motion object C It has prepared so that it may project towards down [in the boom-hoisting direction of said support] to the point of said plug section 2. Moreover, inside said anchoring cylinder part 3 Piece of engagement 3b which engages with the engagement section b of said support rod B inserted in this anchoring cylinder part 3 has protruded. And it has considered as the configuration with which a rotation prevention means to prevent corotation of these both members was formed in said support rod B and said anchoring cylinder part 3.

(Operation)

closing motion concerning this design -- the body and its function -- a support is in the condition which lifted this closing-motion object C up further from that bearing condition, and can attach and use both for an engagement condition to the closing-motion object C which stood up in the open direction by inserting in the engagement hole c of this closing-motion object C this closing-motion object C and the plug section 2 of the bearing member A in the support rod B which made it stand up in the shape of an inclination similarly.

Where this support rod B is held by a hand etc., in case the above is inserted, by positioning engagement projected part 2c of the plug section 2, and a part of inclined plane 2b in the engagement hole c Inclined plane 2b of the plug section 2 contacts cheek c' of the engagement hole c in the tip side (upper part side at the time of considering as an open condition) of the closing motion object C, and is depressed by the cheek c' towards an arrow-head y side, and this plug section 2 is gradually inserted into Hole c (refer to the 11th Fig.).

Subsequently, when cheek c' of the engagement hole c is positioned by the condition (refer to the 10th Fig.) 2, i.e., the plug section on the seat 1, that the bearing of inclined plane 2b of the plug section 2 to cheek c' of the engagement hole c was solved, the closing motion object C falls in the direction of m, and bearing of the closing motion object C is carried out by the seat 1 of the bearing member A.

By solving maintenance by the hand to the aforementioned support rod B etc. in a ***** condition, it functions as this support rod B supporting c" (cheek in the rotation base side of the closing-motion object C made into an open condition in fact) of the cheeks which inclined in the direction of an arrow head y, and have countered said cheek c' of the closing-motion object C with their self-weight by the bearing side 1a of the aforementioned seat 1 (refer to the 8th Fig.).

In addition, when it makes without holding the support rod B according insertion of the aforementioned bearing member A to a hand etc., In connection with engagement projected part 2c of the bearing member A being positioned in the engagement hole c, as shown in Fig. 9, the plug section 2 of the support rod B falls in the direction of an arrow head y towards c" of cheeks of the engagement hole c. c" of this cheek, The standup wall between engagement projected part 2c of the bearing member A and bearing side 1a of the seat 1 touches, the closing motion object C is dropped in the direction of m, and bearing of the c" of the cheeks of the engagement hole c is carried out by bearing side 1a of the support rod B like the above.

When [which was turned in the direction of m' to the closing motion object C in the state of *****] it instigates and the force of ***** acts, as shown in Fig. 9, c" of cheeks of the closing motion object C is contacted by engagement projected part 2c of the bearing member A, and release with the support rod B and the closing motion object C is prevented.

Moreover, even when the force of ***** influence ***** disappears, since the support rod B falls towards an arrow-head y side, both engagement condition is maintained in ***** again pushed in in the direction of m while c" of cheeks of the closing motion object C touches the standup wall between engagement projected part 2c and the seat 1.

Moreover, also when the support rod B is rotated in the direction of arrow-head y', unless said plug

section 2 of this support rod B pushes up the closing motion object C in ***** which contacts cheek c' of the closing motion object C certainly, both engagement condition can be maintained. Therefore, even when the support rod B rotates in the direction of arrow-head Y' accidentally, bearing of the closing motion object C is carried out with the support rod B.

Subsequently, when closing the closing motion object C, the closing motion object C is lifted in the direction of m', as shown in Fig. 10, cheek c' of the engagement hole c can insert, the support rod B can be rotated in the direction of arrow-head y' in the condition of having made it positioned in the inclined plane 2b side of the section 2, and both engagement can be solved by (refer to the 11th Fig.) and this.

Moreover, both engagement can be released by fully lifting the closing motion object C in the direction of m', inserting in this condition, and bringing the motion of protrusion width of face of engagement projected part 2c of the section 2 to the support rod B, without rotating the support rod B in the direction of arrow-head y'.

Furthermore, inside said anchoring cylinder part 3, piece of engagement 3b which engages with the engagement section b of said support rod B inserted in this anchoring cylinder part 3 has protruded. and to said support rod B and said anchoring cylinder part 3 Since a rotation prevention means to prevent corotation of these both members is established, the bearing member A can maintain the sense of that attachment as it is by this plug attachment while being immediately attached by the plug of said support rod B.

(Example)

the closing motion which relates to this design below -- the body and its function -- the drawing of attachment of one typical example of a support is explained.

First, in drawing, A is a bearing member and makes a plastic part etc. the example of a type, B is a support rod which has this bearing member A in a tip side, and the body side of an automobile is usually equipped with it by the pivoting condition free [boom hoisting].

And C is closing motion objects, such as a hood liner of a hood, and it has the engagement hole c where said bearing member A is inserted, has a base side supported pivotably usually, and it has it free [rotation].

Therefore, it is equipped with the support rod B with which the body side of an automobile is equipped free [boom hoisting] here so that it may rise and fall to the sense which supports the closing motion object C with sufficient convenience, i.e., the rotation direction of this closing motion object C and the sense of abbreviation identitas.

And the bearing member A is considered as the configuration in which one was equipped with the anchoring cylinder part 3 in which the tip side of the support rod B is attached, and the plug section 2 inserted in the aforementioned engagement hole c through the seat 1.

Moreover, corresponding to the configuration of the aforementioned engagement hole c, a setup of a configuration is made fundamentally, and in the example of illustration, the seat 1 is making the shape of a rectangle, is set up more greatly than the bore diameter of this engagement hole c, and is considered as the configuration which supports the plate surface around this engagement hole c.

The plug section 2 ****(ed) from the ***** seat 1 is ****(ed) from the aforementioned seat 1 so that bearing side 1a may surely be left behind to the part located in the facing-down side which exists in Bottom Y, i.e., the boom-hoisting direction of the support rod B, at the time of rotation standing up of said support rod B which are used by making it the letter of an inclination.

And standup wall 2a which stands up at a right angle from the location of bearing side 1b of the near seat 1 which becomes top Y' at the time of rotation standing up of the support rod B is prepared in this plug section 2.

Furthermore, it has considered as the configuration which prepared inclined plane 2b which inclines so that it may project towards the above bottom Y from aforementioned top Y' in the tip side of the plug section 2 containing this standup wall 2a, and has considered as the configuration which turned engagement projected part 2c which becomes parallel to the bearing sides 1a and 1b of said seat 1 in the direction of the above bottom Y, and protruded on the upper part side of this inclined plane 2b. That is, inclined plane 2b which turned to the upper part side in the boom-hoisting direction of said support rod B is prepared in that tip side, and, moreover, the plug section 2 is considered as the configuration which prepared engagement projected part 2c projected to the point of this plug section

2 at the lower part side in boom-hoisting direction of this support rod B.

That is, it is this engagement projected part 2c, and the part which countered bearing side 1a with said seat 1 bottom Y is constituted as jaw 2c'. Moreover, it was referred to as ramp 2e which turns the seat side of 2d of standup walls while resulting in jaw 2c' of this engagement projected part 2c from the aforementioned seat 1 to the aforementioned bearing side 1a, and carries out **** upheaval, and has avoided un-arranging [into which the closing motion object C is dropped at once by bearing side 1a].

Moreover, engagement projected part 2c of the plug section 2 did 2f of upheaval only of a central part, lessened contact resistance to cheek c' of the engagement hole c, and has aimed at reduction of use materials for smoother supplies of provisions to term ** and coincidence.

The section 2 has considered as the configuration used as the configuration to which engagement projected part 2c in this plug section 2 contacts the peripheral surface of the cheek of the engagement hole c in this closing-motion object C, and a dimension by inserting on the occasion of pulling apart by the closing-motion object C and this plug section 2 in this attachment condition while it is inserted by the thing which consist of this configuration and for which said inclined plane 2b is used to the engagement hole c of said closing-motion object C.

Namely, while constituting the plug section 2 in the configuration in which a plug is possible in the engagement hole c in said closing motion object C, and the dimension It passes along the ejection tip of said engagement projected part 2c. The imaginary line X parallel to said support rod B moreover If it is in the inclined plane edge in said inclined plane 2b in an equipping [side / with this engagement projected part 2c], and opposite side, and this example of illustration Pass along the touching edge of standup wall 2a and inclined plane 2b, and, moreover, it intersects perpendicularly with imaginary line X' parallel to said support rod B. And said plug section 2 is constituted so that it may become larger than the hole dimension of said engagement hole c which exists in the boom-hoisting direction of said support rod B about the dimension of the imaginary line x which connects each of this imaginary line X and X'.

Subsequently, it attaches, and the cylinder part 3 has aforementioned top Y' and window hole 3a which opens the inside of a cylinder for free passage covering the direction of Bottom Y, and it provides it in this window hole 3a so that the pieces 3b and 3b of engagement of a pair may project the tip side to a way among the aforementioned cylinder parts 3 at an inclination condition.

Moreover, slot 3c is prepared in the peripheral wall turned to the inner back from the entrance side of a cylinder part 3 to the support rod B inserted as one means of the means attached so that the bearing member A may not be rotated, i.e., a rotation prevention means.

Subsequently, the support rod B is considered as the configuration which can be inserted in the bearing member A, having the engagement section b which upheaves in the shape of thickness gradually towards a base side from the point side of this support rod B in the direction involving the shaft by the side of the point, i.e., a circumferencial direction, and making the method of outside carry out elastic deformation of the pieces 3b and 3b of engagement of said cylinder part 3 to it by the inclined plane of this engagement section b.

The tip edge of said pieces 3b and 3b of engagement engages with jaw b' which is in the engagement section b of the support rod B with this insertion elastically, respectively, and both are attached to one.

On the occasion of insertion of this support rod B, b " of projected parts of the baffle made into the means of another side of a rotation prevention means is prepared in the periphery side of this support rod B, and rotation of the bearing member A attached in the support rod B is prevented by inserting b " of projected parts of this baffle into slot 3c of said cylinder part 3.

Moreover, as shown in Fig. 12 and Fig. 13, as for the engagement hole c of the closing motion object C which makes a hood liner etc. the example of a type, it is ideal to have cavity c** of the configuration to which the seat 1 of the bearing member A is restored effectively, and it can make the bearing condition stabilized with the smoother plug bearing of the bearing member A of the support rod B by this.

In addition, it inserts with the bore diameter of the above-mentioned engagement hole c, and the dimension of the section 2, the protrusion width of face of engagement projected part 2c, etc. take into consideration synthetically the degree of the inclination of inclined plane 2b of the plug section

2 etc., are not defined mutually, and are not necessarily specified as the meaning of the example of illustration.

Moreover, it consists of narrow dimensions to which one bore diameter of the engagement hole c results in engagement projected part 2c from standup wall 2a of the plug section 2 with a natural thing, and has considered as the configuration to which bearing of the engagement projected part 2c is certainly carried out by c " of cheeks of the engagement hole c.

subsequently, the closing motion concerning an above-stated example -- the body and its function -- the example of operation is explained with reference to Figs. 8 - 11 about a support.

In order to maintain the closing motion object C in the state of open first, the plug section 2 of the bearing member A of the support rod B which made the closing motion object C stand up from a bearing condition in the shape of an inclination similarly to the engagement hole c of this closing motion object C in the condition of having raised up is inserted. Under the present circumstances, the support rod B is supported by hand etc.

The supplies of provisions of the ***** bearing member A by positioning engagement projected part 2c of the plug section 2, and a part of inclined plane 2b in the engagement hole c Inclined plane 2b of the plug section 2 contacts cheek c' of the engagement hole in the tip side (upper part side at the time of considering as an open condition) of the closing motion object C, is depressed by this cheek c' towards an arrow-head y side, and is gradually inserted into Hole c (refer to the 11th Fig.). And condition [that inserted with cheek c' of the engagement hole c and contact to inclined plane 2b of the section 2 was dispelled] (refer to the 10th Fig.), i.e., when it starts and cheek c' of the engagement hole c is positioned by wall 2a, the closing motion object C falls in the direction of m, and bearing is carried out by bearing side 1b of the seat 1 of the bearing member A.

***** -- a condition -- the above -- a support -- a rod -- B -- receiving -- maintenance -- solving -- things -- this -- a support -- a rod -- B -- oneself -- a self-weight -- an arrow head -- y -- a direction -- inclining -- closing motion -- the body -- C -- said -- a cheek -- c -- ' -- countering -- **** -- a cheek -- c -- " (cheek in the rotation base side of the closing motion object C made into an open condition in fact) -- receiving -- the above -- the seat -- one -- bearing -- a field -- one -- a -- this -- supporting -- as -- functioning (referring to the 8th Fig.) -- .

In addition, when the supplies of provisions of the aforementioned bearing member A are made without holding the support rod B, As shown in Fig. 9 in connection with engagement projected part 2c of the bearing member A being positioned in the engagement hole c, the plug section 2 of the support rod B falls on an arrow head y in a direction towards c " of cheeks of an engagement hole. c " of this cheek, 2d of standup walls between engagement projected part 2c of the bearing member A and bearing side 1a of the seat 1 touches, the closing motion object C is dropped in the direction of m, and bearing of the c " of the cheeks of the engagement hole c is carried out by bearing side 1a of the support rod B like the above -- ***** -- **

Subsequently, it begins to instigate and the function of prevention is explained.

When [which was turned in the direction of m' to the closing motion object C by which bearing is carried out by the above statement] it instigates and the force of **** acts, as shown in Fig. 9, c " of cheeks of the closing motion object C contacts jaw 2c' of engagement projected part 2c of the bearing member A, and release with the support rod B and the closing motion object C is prevented. moreover -- ***** -- influence -- **** -- the force -- having disappeared -- a case -- **** -- a support -- a rod -- B -- an arrow head -- y -- a side -- turning -- falling -- being crowded -- **** -- things -- from -- closing motion -- the body -- C -- a cheek -- c -- " -- engagement -- a projected part -- two -- c -- the seat -- one -- bearing -- a field -- one -- a -- between -- a standup -- a wall -- two -- d -- touching -- while -- again -- m -- a direction -- dropping -- having -- ***** -- both -- engagement -- a condition -- maintaining -- having .

Subsequently, the case where external force is added to the support rod B is explained.

Even when the support rod B is temporarily toppled in the direction of arrow-head y', unless said standup wall 2a of this support rod B pushes up the closing motion object C up in ***** which contacts cheek c' of the closing motion object C certainly, both engagement condition is maintained in the state of the ****.

therefore, even when the support rod B is accidentally pushed in the direction of arrow-head y', bearing of the closing motion object C is certainly carried out with the support rod B -- ***** -- **

Subsequently, the actuation which closes the closing motion object C is explained.

First, the closing motion object C is lifted in the direction of m' , as shown in Fig. 10, and both engagement is solved by what (refer to the 11th Fig.) the support rod B is rotated for in the direction of arrow-head y' in the condition of cheek c' of the engagement hole c having inserted and having been positioned in inclined plane 2b of the section 2.

Of course, without rotating the support rod B in the direction of arrow-head y' , the closing motion object C may fully be lifted in the direction of m' , it may insert in this condition, and the motion of protrusion width of face of engagement projected part 2c of the section 2 may be brought to the support rod B.

(Effectiveness of a design)

A support is made into the configuration list with features in the above statement from an operation, and handling actuation is easy for it. closing motion concerning this design -- the body and its function -- In and ***** to which bearing of the closing motion object C is certainly carried out in the state of open in spite of the configuration of the bearing member A being simple and making it relatively cheap [shaping cost] Even when external force, such as a blow which is not expected to the closing motion object C, is added, to the support rod B, the bearing member A rotates, or does not slip out, and engagement to the closing motion object C and a support is not solved.

Moreover, also when the external force which is not similarly expected to the support rod B which is supporting the closing motion object C is added, it has the features that the engagement condition is maintainable similarly.

Furthermore, inside said anchoring cylinder part 3, piece of engagement 3b which engages with the engagement section b of said support rod B inserted in this anchoring cylinder part 3 has protruded. and to said support rod B and said anchoring cylinder part 3 Since it has considered as the configuration in which a rotation prevention means to prevent corotation of these both members was formed, said bearing member A rotation of the bearing member A attached to this support rod B with insertion attachment **** is easily prevented to said support rod B, and the bearing member A has the features which always attach to the same sense as the attached sense, and are held.

[Translation done.]

* NOTICES *

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1. This document has been translated by computer. So the translation may not reflect the original precisely.
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3. In the drawings, any words are not translated.

CLAIMS

[Utility model registration claim]

[Claim 1] In the support which can be risen and fallen and which is stood up and used for an inclination condition towards the closing motion object with which the end is supported pivotably free [rotation] this support It consists of a support rod and a bearing member made from plastics with which the tip side of this support rod is equipped. To this support rod The engagement section is prepared in the direction involving the shaft of this support rod at *****. To said bearing member The seat which contacts the peripheral surface of the cheek of the engagement hole established in said closing motion object, The plug section which is upheaved and prepared on this seat at one, and is inserted into this engagement hole, The plug section which it has the anchoring cylinder part which it turns caudad from this seat, and is prepared in one, and is equipped with a support rod, and is prepared in one by upheaving from said seat While having made the tip side into the upward inclined plane in the boom-hoisting direction of said support The engagement projected part which engages with the peripheral surface of the cheek of the engagement hole of said closing motion object to the point of this plug section An imaginary line parallel to said support rod which projects towards down [in the boom-hoisting direction of said support], and has prepared in the condition, and passes along the tip of said engagement projected part, It intersects perpendicularly with an imaginary line parallel to said support rod passing through the inclined plane edge in said plug section in an equipping [side / with this engagement projected part], and opposite side. The dimension of the imaginary line which connects this each imaginary line is greatly constituted from a hole dimension of the boom-hoisting direction of said support in the engagement hole of said closing motion object. Inside said anchoring cylinder part the closing motion characterized by establishing a rotation prevention means by which have protruded and the piece of engagement which engages with the engagement section of said support rod inserted in this anchoring cylinder part prevents corotation of these both members to said support rod and said anchoring cylinder part -- the body and its function -- a support.

[Translation done.]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

The perspective view of the bearing member A which Fig. 1 requires for this design, and Fig. 2 a front view and Fig. 3 A side elevation, a part of condition that the top view and Fig. 5 inserted the bottom view, and Fig. 4 inserted the support rod B in Fig. 6 -- a sectional view, the important section fracture front view Fig.'s 7 showing [this important section fracture perspective view and / 8 - 11] the migration condition of the closing motion object C, the bottom view showing [12] the engagement hole of the closing motion object C, and Fig. 13 are these important section sectional views.

1 [.. A bearing member, B / .. A support rod, C / .. Closing motion object] The seat, 2 .. The plug section, 3 .. A cylinder part, A

[Translation done.]

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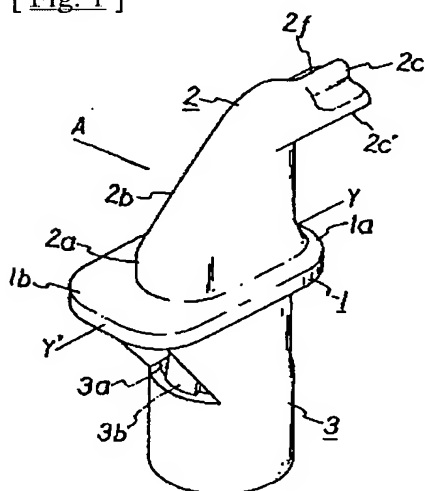
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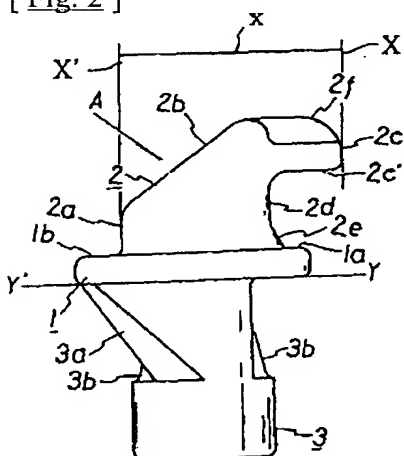
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DRAWINGS

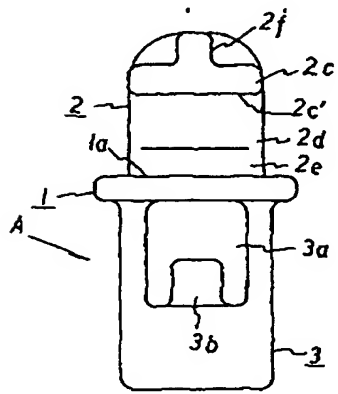
[Fig. 1]



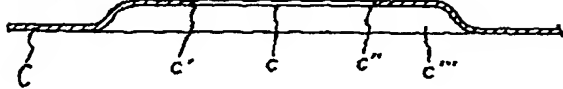
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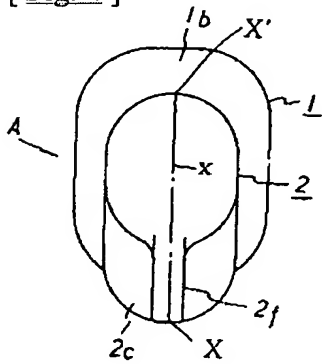
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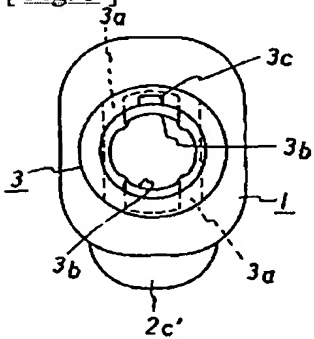
[Fig. 13]



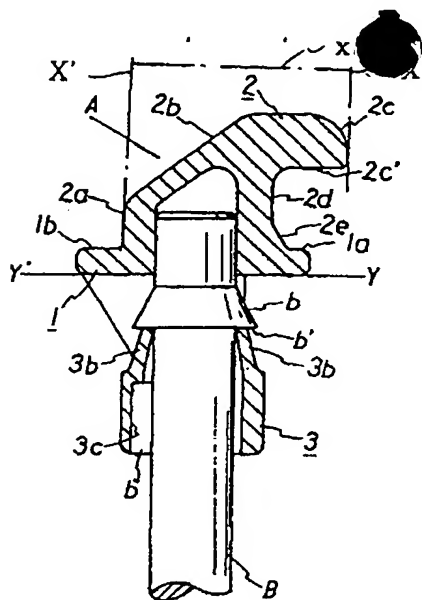
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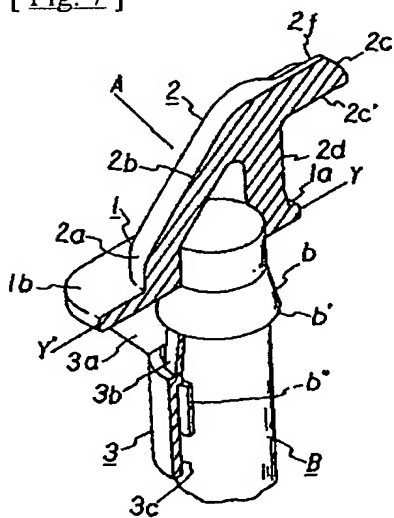
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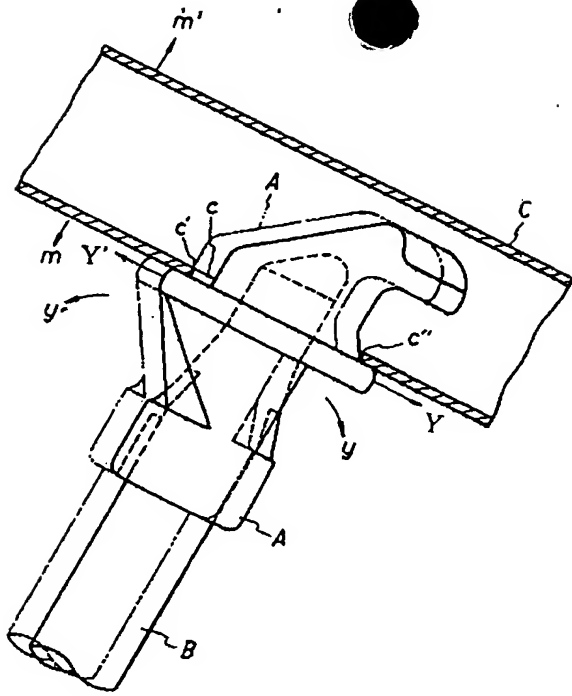
[Fig. 6]



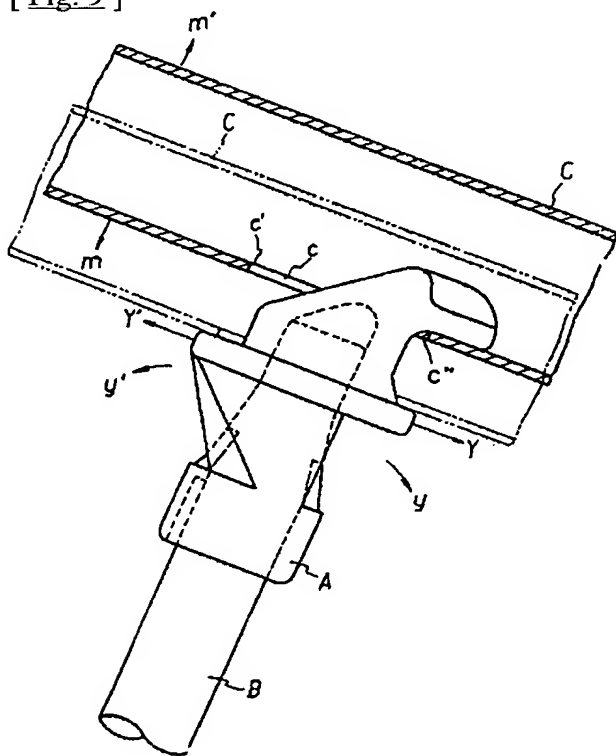
[Fig. 7]



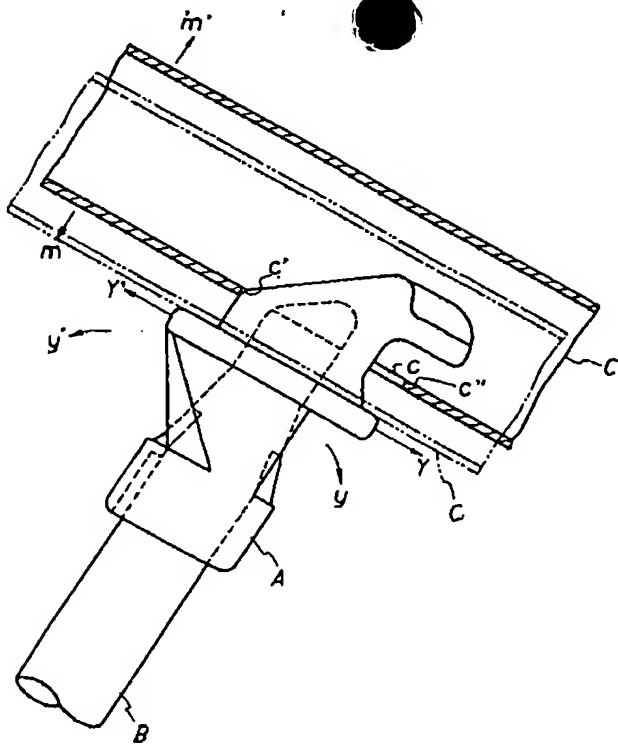
[Fig. 8]



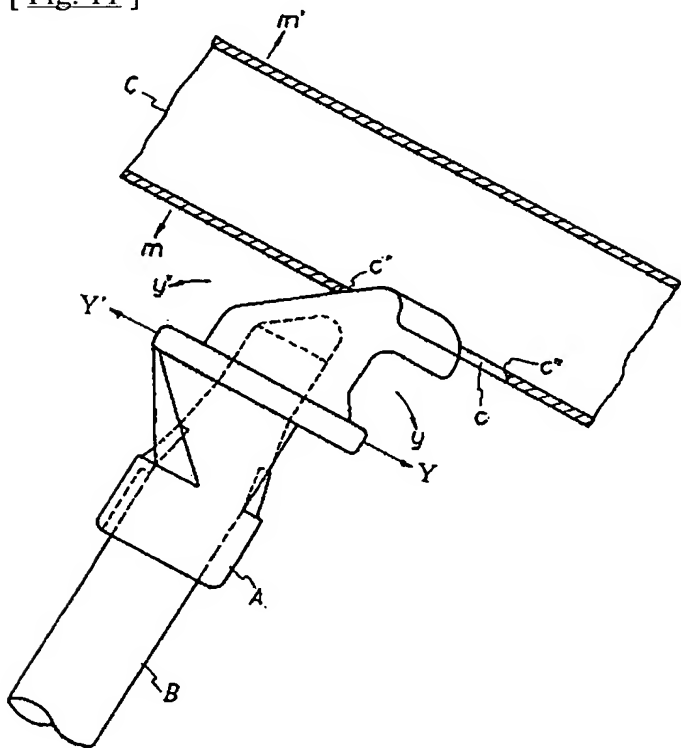
[Fig. 9]



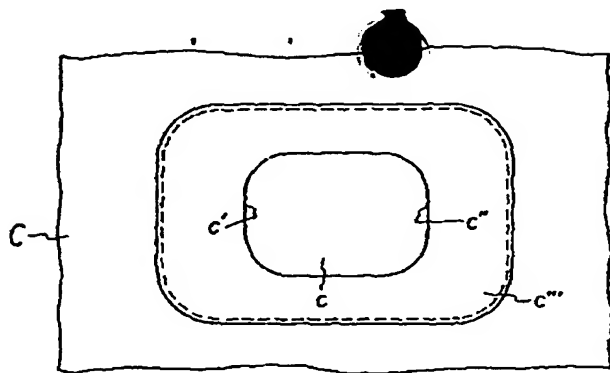
[Fig. 10]



[Fig. 11]



[Fig. 12]



[Translation done.]